

# T858 CNC 5 axes



## TECHNICAL DESCRIPTION OF THE MACHINE AND OPTIONS

### Important

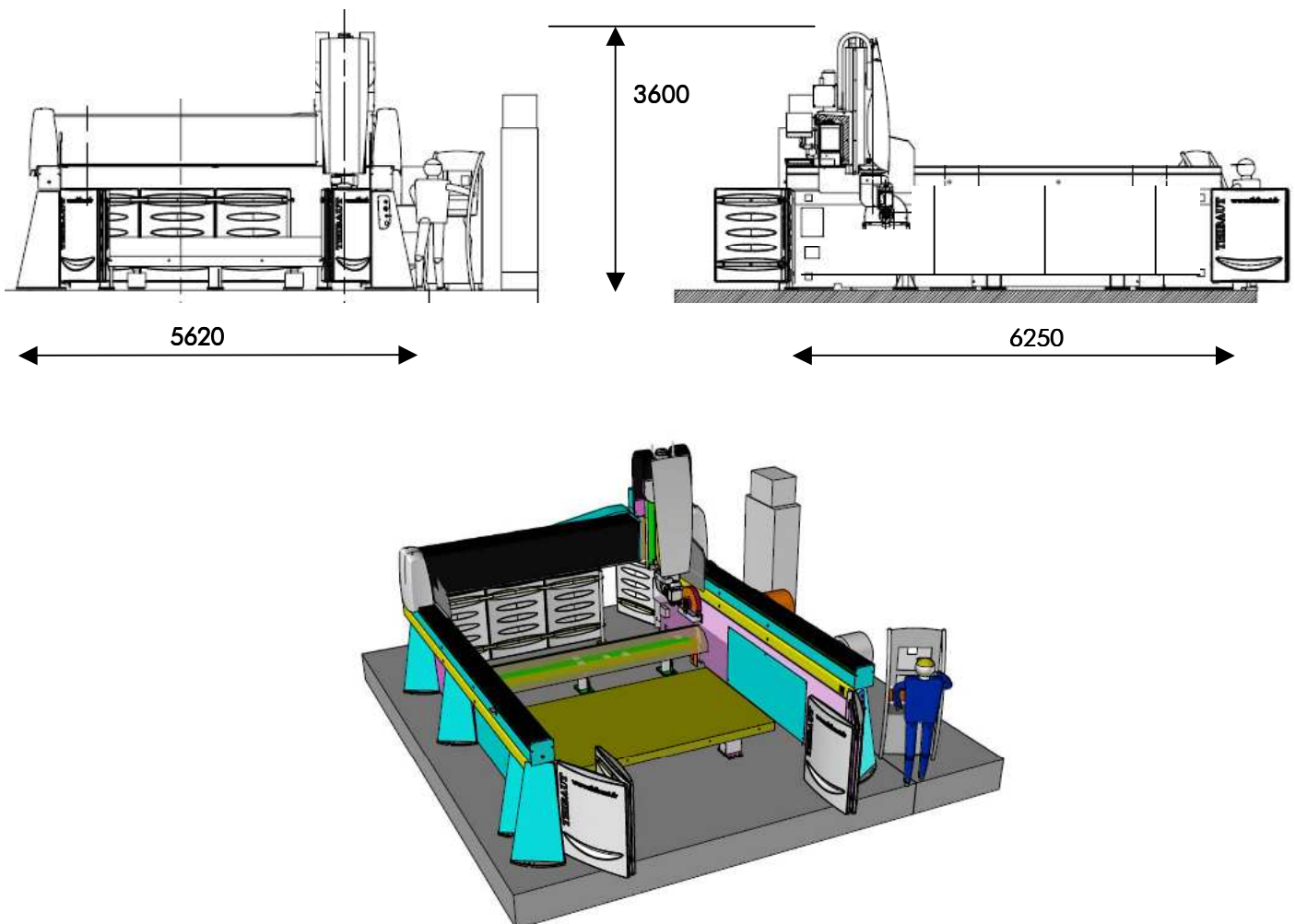
This chapter has the aim of giving you technical and functional information about the T 858 and on the options and accessories. To know the equipments and options included in your quotation, please refer you to our prices of this document.

Some options are only available in 4 axis. See technical descriptive.

With the aim of improving the quality of our machines, the technical features given in the following pages can be modified at any time, and without pre-advice.

All pictures are indicative only

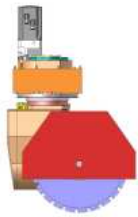
### Overall dimensions of the machine



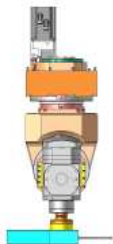
## 5 AXES CNC WORKING CENTER TYPE T858

### A – a machine with various possibilities

With 5 interpolated axes and a very performing software especially developed for the stone work, the T 858 is A machine with high performance which permits complex shaping and polishing operations. The compact spindle permits very fine machining operations. The maximum speed 12000 rev/min permits to use tools of very low diameter such as engraving tools for example. The basic model has got a 6 m runway which gives a machining capacity on 5 faces of 2600 x 2100 x 400 mm (with tool 250 mm long) There is another version with 12 m runway. The 47 spaces' magazine and 1 specific space for the disc permit a high functioning Autonomy, even for the complex pieces. Some examples :



Vertical sawing ( dia. 500mm max. )



Horizontal sawing ( dia. 500mm max. )



Inclined sawing ( disc dia. 350mm max. )



Horizontal drilling



Milling with cutter

### B – a very performing new software

Our machine T858 is supplied with a brand new specially developed Tibocad/Cam software in 3 D. This is one of the most performing of the market and the innovations are specific for the stone work. You can visualize the pieces in 3 D and programme very concise machining and polishing operations.

This is the ideal tool for the T 858.

This software is also used on our 5 axes TC05 Numeric sawing machine.

## A - Machine

V0858 001

CNC WORKING CENTER TYPE T 858 – 5 AXES

### Main fonctions :

- Milling
- Routing
- Drilling
- Sawing
- Engraving
- Moulding
- Sculpture
- Polish, hone, brush...

Longitudinal stroke Y = 3050 mm  
 Traverse stroke X = 3550 mm  
 Vertical stroke Z = 800 mm

### TECHNICAL DESCRIPTION

400V/50Hz

**PAINTED WELDED STRUCTURE PLINTHS** equipped with linear rails and protection bellows  
 ( runway length = 5975 mm )

**BEAM SIDE MEMBERS** with linear rails and protection bellows

Longitudinal shifting (axis Y) by 2 synchronized Brushless brake gear motors  
 ( speed variable from 0 to 50 m/min )

Longitudinal drive by 2 sets precision pinion-rack sets with tilted teeth

Welded structure traverse carriage with vertical sliding unit supporting the rotary head

Traverse shifting (axis X) insured by a brushless brake gear motor (speed variable from 0 to 50 m/min)

Traverse drive by 1 precision pinion-rack set with tilted teeth

Vertical shifting (axis Z) of spindle support sliding unit insured by brushless motor  
 ( speed variable from 0 to 30 m/min )

The precision linear guiding and the ball screw (axis Z) are protected by bellows

**BI-ROTATIVE HEAD** insuring movement of electro-spindle

According to axes B and C

Driving axes B and C insured by brushless motors

( maxi shifting speed : 140°/s for axis C and 100°/s for axis B )

( clearance range : ± 115° for axis B and ± 255° for axis C )

**HOLDING HYDRAULIC BRAKES** on axes B and C for 5-axes positioned work

**ELECTRO SPINDLE WITH LIQUID COOLING** with central watering and rotation indexing

- power 15kW (S6) - 4500 rev/min - ( 12 kW - continuous )
- variable speed from 250 to 12000 rev/min)

Automatic tool change by cone BT 40 with pneumatic release ( maxi weight of tool and arbor: 15 kg )

**LINEAR TOOL MAGAZINE ON 2 ROWS** with retractable protection housing

47 spaces maxi for tools Ø maxi 150 mm

air-conditionned electric cabinet

CN permitting work of the machine with 5 interpolated axes



**LASER PERMITTING :**

- positioning of vacuum pads and stops
- dimension selection of the slabs
- manual teach-in of the slabs' shape



**5 INTERPOLED AXES CAD CAM SOFTWARE** permitting to manufacture the slab to be made and to associate a machining range to this profile including :

**very flexible drawing tool opened to artistic creations :**

- possibility at any time to modify a part of the drawing without affecting the whole of it
- very convivial drawing by « intelligent » cursor
- visualization in 3D at each time of the drawing in process
- positioning of vacuum pads and stops directly on the drawing

**A tools 'parameters interface especially developed and adapted to the profession**

Possibility to program all tools and to affect them specifically to a machine ( when a CN sawing machine is associated to the T 858)

**A very performing machining software :**

- optimization of tools' work ( time savings on some operations )
- control of collisions between tool and the piece to be machined
- visualization in 3D of the machine and machinings
- permits to obtain a high finishing degree

**Minimum required configuration :**

WINDOWS XP PRO SP2 + Internet Explorer 6 or 7

Graphical card Nvidia

DVD

4 USB

Memory 2 Go

Disc : 60 Go

Processor Pentium or AMD : 2.6 GHz

Graphical card Nvidia : 128 Mo

Screen : 17"

Air filtration 1  $\mu\text{m}$  with automatic drain

Water filtration by filter 25  $\mu\text{m}$  for central watering and external watering of the tools

Double watering :

- central – clear water – for tool lubrication
- external – clear water – by crown equipped of flat jet nozzles for tool lubrication

Cooling group permitting to maintain the spindle at a constant temperature

Automatic centralized lubrication of all the linear guides , ball screws and driving pinions

Front safety doors controlled by pneumatic cylinders ( patented) and fixed rear doors prohibiting any access when the machine works

**Important**

**Diamond tools non included**

## B – Working table

**Z001 71 01 000**

**GRANITE TABLE**

**Main features**

Dimensions L 3400 mm x W 2100 mm fixed onto the ground  
Maxi load 1500 kg



## C – CAD CAM softwares

**Important :**

**Compulsory for the CAD/CAM training**

- basic knowledge of the PC functioning
- Knowledge of the Windows environment
- basic knowledge of algebra and trigonometry

**V0000 074**

**TRAINING**

**V0000 075**

**TRAINING (export)**

**Includes**

Training of user's by qualified teachers

**with**

2 X 40 hours theoretical training in VIRE including training to TIBOCAD and initiation to TIBOCAM  
40 hours practical training in your works when installing the machine including exercises

**nota**

Detail of the training in the training plan – supplied on request  
Lodging expenses in VIRE chargeable to the customer

## D – Clamping of slabs

**C980 26 00 000**

**CLAMPING BY VACUUM PADS**

**Including**

Pump  
6 vacuum pads Ø 154 mm - H = 150 mm - double face  
6 vacuum pads Ø 114 mm - H = 150 mm - double face  
2 rectangular vacuum pads 40 x 75 mm - H = 150 mm double face  
3 vacuum pads« slab position  
1 set of holders for vacuum feeding  
1 water tank



## E – Automatic correction of tool wear

### Z001 61 02 000 MECHANICAL DEVICE FOR AUTOMATIC CORRECTION OF TOOL WEAR

**Fonction** Permits automatic measuring (tool stopped) of length and/or tool diameter. Machining cycle of the CN is corrected automatically according to tool wear degree. Fixed onto the magazine.

### Z001 61 03 000 LASER FOR AUTOMATIC CORRECTION OF TOOL WEAR

**Fonction** Same as above but system adapted to shaping tools. Measuring of tool is made with tool in rotation and the CN machining cycle is automatically corrected according to tool wear degree. Fixed onto the magazine.

**Important** In this case, the magazine capacity is : **maxi. 46 spaces**

## F – Tool measuring system

### 0818 95 04 000 TOOL MEASURING SYSTEM

**Function** Permits manual measure of the length and /or diameter of new tools. Those information are given manually to the CN (can be made during idle times)

**Includes**

- 1 digital reading sliding caliper (nozzles of 60 mm, capacity 300 mm, double display : mm or inches) and its equipment to measure the tool Ø
- 1 digital trusquin capacity 300 mm to measure the tool length

## G - Assistance

### V0001 013 ASSISTANCE AND DIAGNOSTIC BY TELEMANTENANCE

**Fonction :** Permits to communicate with the machine in order to make a maintenance from a distance

**Includes :**

- 1 modem
- 1 connection between modem and numerical control
- 1 licence PC Anywhere (student)

**Important**

- the analogic phone line with access by internal number is chargeable to the customer
- the telemaintenance is possible on the CN part but not on the CAD CAM for safety reasons
- cost of phone calls is chargeable to the customer

The connection to the machine is to be made **ONLY by our technical services**

**015723** RSC SIEMENS MAINTENANCE CONTRACT (MACHINE 4 AND 5AXIS)

<b>Fonction :</b>	This contract guarantees the spare parts, the labour and work on site during 12 months from putting into service of the machine. In case of breakdown on the axes modules or on the numerical control (diagnosis made by the THIBAUT after sale service), SIEMENS commit themselves to have the parts in stock and ensures a priority service with a work on site one working day after the diagnosis date
<b>Includes :</b>	This guarantee covers the CN, the axes modules except cables and motors
<b>Important</b>	The work is done by SIEMENS technicians 1 day after the diagnostic of Thibaut after sales service
	For the following countries : <ul style="list-style-type: none"> <li>• <b>Europe:</b> France, Belgium, Denmark, Germany, Finland, GB, Italy, Liechtenstein, Luxembourg, Netherlands, Austria Portugal, Sweden, Spain, Switzerland, Czech Republic Turkey,</li> <li>• <b>America:</b> USA, Canada, Mexico, Brasil</li> <li>• <b>Asia and Oceania:</b> Australia, China, India, Japan, Singapour, Korea, Taiwan, Thailand</li> </ul>
	For other countries, please consult us.

## H – Additional clamping accessories

**C980 06 33 309** ADDITIONAL DEPRESSURE HOLDER FOR VACUUM

<b>Fonction :</b>	Permits to have 20 additional depression connections for the vacuum pads
<b>with</b>	1 holder equipped with valves for the vacuum pads depression

<b>C980 10 24 000</b>	VACUUM PAD Ø 200 mm H 250 mm FOR POLISHING OF LOWER ARISES
<b>C980 12 01 000</b>	VACUUM PAD Ø 154 mm H 150 mm
<b>C980 12 02 000</b>	VACUUM PAD Ø 114 mm H 150 mm
<b>C980 12 03 000</b>	VACUUM PAD40 X 75 mm H 150 mm
<b>C980 12 04 000</b>	VACUUM PADØ 250 mm H 150 mm
<b>C980 10 21 000</b>	VACUUM PAD 150 X 150 mm H 150 mm FOR POLISHED FACE
<b>C980 10 22 000</b>	VACUUM PAD 200 X 200 mm H 150 mm FOR POLISHED FACE
<b>C980 10 23 000</b>	VACUUM PAD200 X 300 mm H 150 mm FOR POLISHED FACE

**C980 12 07 000** VACUUM PAD Ø 128 mm H 150 mm FOR MECHANICAL CLAMPING

<b>Fonction</b>	Vacuum simple face permitting the mechanical clamping at the upper part
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**C980 13 00 000** RETRACTABLE ROUND VACUUM PADS Ø 154 mm H 150 mm

<b>Fonction :</b>	Permits automatic retraction of the routed piece in order to be able to make the polishing operation of the inside edge without stopping the machine
<b>with</b>	1 controlling system 2 retractable vacuum pads stroke 60 mm

C980 11 05 000

**POSITIONNING STOP**

**Function:** For the good positioning of the slab on the table with help of the cross laser  
**with :** Vacuum pad« positioning stop » simple face  
**important :** All vacuum pads are in aluminium, protected by anodization  
 The vacuum pads and stops here above are supplied with 4 M hose

**I – Polishing of surfaces**

Z001 93 04 000

**90° ANGLE GEAR DEVICE FOR POLISHING OF LOWER ARISES**

**Fonction** For unique wheel Ø 100 or Ø 130  
**important :** It is compulsory to use vacuum pads height 250 mm  
 This option takes 2 spaces in the magazine

**J - Sawing**

Z001 93 01 000

**SAWING DISC**

**Fonction:** For roughing works with disc Ø 500 mm  
**With** 1 arbor BT40 with disc clamping flanges Ø 180mm, disc centering Ø50mm  
 with protection housing  
 1 support fixed onto the machine plinth

**K – Storage of tools and accessories**

C933 00 00 000

**MOBILE TURRET TO STORE THE TOOLS AND VACUUMS**

**Fonction** Permits to store the tools and vacuum pads and to maintain them tidy  
**Description** 40 spaces maxi on 5 rows, if tools Ø 120 mm  
 Nota : for arbors BT 40  
 Stainless tool turret on 4 rollers, L 1400 mm x l 750 mm

## L - ARBORS T858

<b>A400 73 02 000</b>	<b>ARBOR BT40</b>
<b>Description :</b>	M30 x 3,5 FC 45
<b>A400 73 01 000</b>	<b>ARBOR BT40 FOR DRILLING, ROUTING, GROOVING</b>
<b>Description :</b>	attachment ½ gas, conical centering, maxi Ø when drilling 100 mm
<b>A400 73 03 000</b>	<b>ARBOR BT 40 FOR SHAPING CUTTER OR POLISHING WHEEL</b>
<b>Description :</b>	central watering, maxi tool external Ø 120 mm, bore Ø 35 mm
<b>A400 73 05 000</b>	<b>ARBOR BT40</b>
<b>Description :</b>	M24x2 with spacer
<b>A400 73 08 000</b>	<b>ARBOR BT40 FOR RIGID DRUM CUTTER Ø 100 MM</b>
<b>Description :</b>	height 135 mm, central watering, bore 43 mm, useful working height 130 mm
<b>A400 73 09 000</b>	<b>ARBOR BT40 FOR RIGID DRUM CUTTER Ø 100 MM</b>
<b>Description :</b>	height 170 mm, central watering, bore 43 mm, useful working height 160 mm
<b>A400 73 10 000</b>	<b>ARBOR BT40 FOR RIGID DRUM CUTTER Ø 100 MM</b>
<b>Description :</b>	height 200 mm, central watering, bore 43 mm, useful working height 180 mm
<b>A400 73 07 000</b>	<b>ARBOR BT40 - ATTACHMENT M30 X 3,5 WITH EXTENSION FOR FLAT DISC ADAPTATION Ø 190 MM</b>
<b>Description :</b>	Centering Ø 50 mm, thickness 6 mm, 6 holes M6 on Ø 80mm
<b>A400 10 40 000</b>	<b>EXTENSION M30 X 3.5 MALE LENGTH 160MM ATTACHMENT ½ GAS</b>
<b>Description :</b>	For cutter
<b>A400 10 42 000</b>	<b>EXTENSION M30 X 3.5 MALE LENGTH 140MM ATTACHMENT ½ GAS</b>
<b>Description :</b>	For cutter
<b>A400 10 38 000</b>	<b>EXTENSION M30 X 3.5 MALE LENGTH 160MM ATTACHMENT M30x3,5 FEMALE</b>
<b>9530 41 1B 000</b>	<b>ARBOR M30X3,5 FOR DISC Ø 300 MM</b>
<b>Description :</b>	bore 60 mm, thickness 5 mm or bi face cutter, 6 holes

A400 71 86 000

SPRING ARBOR M24X2 FEMALE ATTACHMENT M24X2 MALE

## M – Particular environments

V0001 003

AUTO TRANSFORMER

**Function :** Necessary for feeding of the machine if voltage 220V - 50 Hz

**with** - 1 auto transformer 63 KVA

**important** **Other voltage : please consult us**

T0000 082

PARTICULAR CLIMATIC CONDITIONS

**Function** Necessary if humidity HR > 80 %, saline air ...